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In this paper, the classical control techniques are applied to the neutral point in a 3-phase 4-wire DC-AC power converter. The converter is intended to be connected to 3-phase 4-wire loads and/or the power grid. The neutral point can be steadily regulated by a simple controller, involving in voltage and current feedback, even when the three-phase converter system (mostly, the load) is extremely unbalanced. The achievable performance is analyzed quantitatively and the parameters of the neutral leg are determined. Simulations show that the proposed theory is very effective.



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